ABSTRACT OF THE DISCLOSURE (Currently Amended)

[0021] This invention provides [~~Method of automated~~] methods of one step synthesis of stable isotope labeled internal standards in a metabolic stability analysis of library of compounds by mass spectrometry [~~using stable isotope labeled internal standards is provided~~]. [~~Said~~] Labeled internal standards are prepared [~~in situ~~] by reaction of an authentic sample of [~~said~~] library compounds with a stable isotope labeled derivatizing reagent. [~~In an automated fashion,~~] Reactions of cytochrome P450 enzyme systems [~~are added to said~~] with library compounds[[;]] in a metabolic stability test may be performed in an automated fashion by incorporation of this one step synthesis. Mass spectrometric analysis of library compounds after enzyme reactions using these labeled internal standards requires an additional derivatization of library compounds. This additional reaction may also be adapted to the metabolic stability test in an automated fashion [~~said reactions are terminated after certain periods of time by addition of an organic solvent containing equal amounts of said labeled internal standards; said terminated enzyme reactions are treated with a non-labeled version of said stable isotope labeled reagent to convert remaining library compounds to compounds of identical structures, except the labeled atoms, as those of said labeled internal standards; said conversion reactions are extracted and the extracts are analyzed by isotope dilution mass spectrometry to determine the percentage of library compounds remaining after enzyme reactions~~].